

Generating Acid Downhole in Acid Fracturing

Abstract

An acid fracturing method is provided in which the acid is generated in the fracture by hydrolysis of a solid acid-precursor selected from one or more than one of lactide, glycolide, polylactic acid, polyglycolic acid, a copolymer of polylactic acid and polyglycolic acid, a copolymer of glycolic acid with other hydroxy-, carboxylic acid-, or hydroxycarboxylic acid-containing moieties, and a copolymer of lactic acid with other hydroxy-, carboxylic acid or hydroxycarboxylic acid-containing moieties. The solid acid-precursor may be mixed with a solid acid-reactive material to accelerate the hydrolysis and/or coated to slow the hydrolysis. Water-soluble liquid compounds are also given that accelerate the hydrolysis. The method ensures that the acid contacts fracture faces far from the wellbore.